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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/517,141	12/07/2004	Masao Nagano	59406.00026	6837

32294 7590 02/20/2007

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EXAMINER	
CAZAN, LIVIUS RADU	
ART UNIT	PAPER NUMBER
3729	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/517,141	NAGANO ET AL.	
	Examiner	Art Unit	
	Livius R. Cazan	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 December 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 5-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5-9* is/are allowed.

6)☒ Claim(s) *1* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 December 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. The amendment filed on 12/26/2006 has been fully considered and made of record.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ozawa (EP1073179 to Ozawa et al.).

As discussed in the Office Action mailed on 9/26/2006, Ozawa discloses substantially the same invention as the Applicant.

Applicant presents two embodiments, one having windings formed of single conductors (60b, Fig. 9a), and windings formed of a plurality of Litz wires which are twisted together and thereafter pressed so that the winding has a rectangular cross-section (60a, Fig. 8a; Fig. 22).

Ozawa discusses the use of solid wires and specifies that a winding formed of a plurality of fine wires allows the winding to "cope with higher speed rotation" and "circulating current losses are reduced" (para. [0015]). The thin wires of Ozawa are twisted together and thereafter are pressed together such that the resulting wire sheaf has a rectangular cross-section (para. [0027]-[0039], [0067], and [0068]).

Even in Applicant's invention, it is clear from figures 9b and 8b that the single wire winding is less advantageous than the winding having multiple wires. Nevertheless, it is clear from Applicant's own disclosure that windings made from a single conductor are a suitable replacement.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize windings made from a single conductor rather than multiple conductors, since such a configuration is an art-recognized equivalent winding structure, albeit a less efficient one. One of ordinary skill in the art would have been motivated to do so in order to reduce the cost of manufacturing the winding.

Allowable Subject Matter

4. Claims 5-9 are allowed.

Response to Arguments

5. Applicant's arguments filed 12/26/2006 have been fully considered but they are not persuasive. Applicant argues (page 7) Ozawa does not indicate the conductor has an elongated or rectangular cross-section, citing paragraph [0060] of Ozawa as evidence that the conductor is a distorted circular cross section. Applicant is confusing the wire sheaf 27 with the magnet wires 25. The winding conductor is the wire sheaf 27, not the individual wires 25. Ozawa specifies in paragraph [0060] that the wire sheaf is made up of magnet wires 25. Each of the magnet wires 25 is approximately square in shape. It is not the wire sheaf that is square. In fact, the various paragraphs cited in the above rejection mention the fact that the cross section of the sheaf is rectangular (such as para. [0067]). Moreover, looking at Fig. 7, the sheaf 27 is shown to be composed of

six square wires 25 in the vertical direction and three square wires 25 in the horizontal direction, which, clearly, results in a sheaf 27 having a rectangular cross section.

Applicant argues (page 8) that Ozawa does not disclose a long side of the conductor extending in the radial direction, particularly since Ozawa indicates that the wire sheaf is twisted in helical form. However, this is incorrect. Ozawa discusses the fact that the sheaf is twisted and thereafter pressed to maintain its rectangular cross section (see previously cited paragraphs as well as para. [0079]-[0081]). The sheaf itself is rectangular along its length. It is the wires 25 that are twisted relative to each other along the length of the sheaf 27, exactly the same as the method by which Applicant obtains the windings composed of multiple wires.

The figures *are* relied upon to show the fact that the sheath is wound such that the long side is in the radial direction. From reading the Ozawa disclosure, it is clear that the radial direction is along a line joining elements A and B of the drawing on page 4 of the previous Office Action, the drawing being a hand-drawn representation of portion 37 in Fig. 5 of Ozawa. MPEP § 2125 refers to utilizing the drawings to show proportion, such as stating that a certain structural element has a certain size based on a measurement of the drawings. In this instance, the Examiner is not relying on the scale of the features, but rather on the overall teaching of the drawings. The figures of Ozawa, and in particular Figs. 5-7 clearly suggest to one of skill in the art that the conductor portion shown at 31 in Fig. 5 is the same as the magnified portion shown in Fig. 6. The description of figures 5-7 also supports this view. There is nothing in the entire disclosure of Ozawa that would suggest to one of ordinary skill in the art that it is the

short side which is in the radial direction. On the contrary, all the drawings suggest that the long side is pointing upward, which, as discussed with respect to the drawing in the previous Office Action, is the radial direction.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Livius R. Cazan whose telephone number is (571) 272-8032. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (571)272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LRC 02/02/2007

PETER VO
SUPERVISORY PATENT EXAMINER
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